(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 28 July 2005 (28.07.2005)

PCT

(10) International Publication Number WO 2005/069247 A1

(51) International Patent Classification⁷: 19/36, H04B 10/00

G08C 23/04,

(21) International Application Number:

PCT/CA2005/000027

- (22) International Filing Date: 11 January 2005 (11.01.2005)
- (25) Filing Language:

Englis

(26) Publication Language:

English

(30) Priority Data: 2,455,284

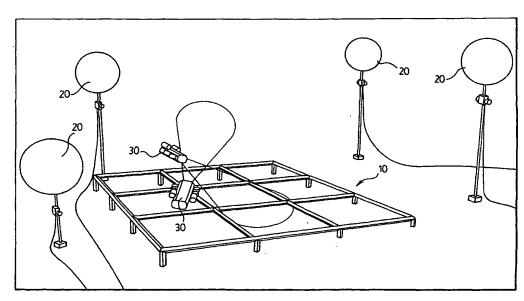
16 January 2004 (16.01.2004) CA

- (71) Applicant (for all designated States except US): PEN-GUIN AUTOMATED SYSTEMS INC. [CA/CA]; Suite 2310, Box 792, Bay Wellington Tower, BCE Place, 181 Bay Street, Toronto, Ontario M5J 2T3 (CA).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): BAIDEN, Greg [CA/CA]; 73 Westend Road, Lively, Ontario P3Y 1H8 (CA).

- (74) Agent: EISEN, Mark, B.; DIMOCK STRATTON LLP, 20 Queen Street West, Suite 3202, Toronto, Ontario M5H 3R3 (CA).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: UNDERWATER OPTICAL COMMUNICATIONS SYSTEM AND METHOD



(57) Abstract: An underwater optical communications system and method particularly suitable for use in communications with automated equipment. A series of light beacons are dispersed throughout a communications zone. The light beacons are each provided with a plurality of light-emitting elements and light receiving elements which are positioned so that each beacon within the communications zone emits light in a plurality of directions and receives light from a plurality of directions. A submersible craft is similarly provided with light emitting elements and light receiving elements. The submersible craft is thus always in optical communication with one or more beacons when in the communications zone, regardless of the orientation of the craft and regardless of the position of the craft within the communications zone.



WO 2005/069247 A1



Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

7